

(see drawing 03, 04)

a set of multiple sunlight readable slim frame LCD e-Mirrors, perfect size match with regular central rear view glass mirror when side by side together as dual display (drawing 05, 09);

a cluster of camera mounts, able to free tilt viewing angle, and to stick on to any motor vehicle surface without tools nor drilling screw hole (drawing 10);

a method technique of mounting said owl's eye camera to obtain maximum proximity views;

a set multi choice techniques for on dash easy mount multiple LCD e-Mirrors to display eyes catching driving safety view at driver's front vision (drawing 09);

a method of anti-stolen technique to protect said surface mount thumb cameras.

[Claim 2] said LCD e-Mirrors of claim 1, having multiple characters, comprising :

a suitable width and height screen dimensions, thereby side by side mounted dual screen can perfect match with size of a regular central rear view mirror (see fig 5B, 9C);

a super slim bezel shape design of a LCD, to maximize visibility and to save driver's front view space;

a right ratio between width and height of screen dimensions, matching industrial 16:9 wide screen standard ratio and showing near actual size proximity view to catch driver's attention;

a low profile mount stand, dimensions size matching LCD e-Mirrors, perfect mounting said LCD e-Mirrors on both left and right spots dash top of vehicle instrument panel (fig 9A, 9B);

an ultra bright sunlight readable LCD back light, built in the said LCD e-Mirror, for day and night maximum visibility, regardless at any ambient light;

an ambient light sensor, to auto control said LCD e-Mirror display brightness and contrast, thereby avoiding over white under blazing sun shine in summer, or too dim video screen at dark night.

[Claim 3] Said slim frame LCD e-Mirrors of claim 1 (see fig 09), comprising following multi choice on dash mount techniques for best eyes catching safety view (drawing 09):

a. cost effective dual stereo 2X e-Mirrors setting on left and right corner top of ODO instrument panel, showing both side and rear blind spots proximity view using view switch;

b. said dual stereo 2X e-Mirrors on top ODO panel plus dual rear corner proximity views LCD e-Mirrors attached on left and right side of central rear glass mirror, forming 4 X e-Mirrors, (fig 9C);

c. said dual stereo 2X e-Mirrors on top ODO panel plus triple rear views e-Mirrors mounting on central dash top, forming panoramic 5 X e-Mirrors to view all proximity views surround your vehicle (fig 9F) camera.

[Claim 4] Said day and night owl's eye camera of claim 1, comprising:

a set of ultra large optical iris lens, twice size of regular lens (fig 4A), characterized ultra night vision like owl's eye;

an actual size viewing angle lens, having natural human viewing character, and fast speed, ultra low distortion optical character to insure safety view accuracy;

an ultra sensitive CCD chip, 4 times sensitive over regular CCD, 7 times over CMOS camera, workable under 0.3 lux ambient light that equivalent to little moon light;

an advanced DSP digital signal processor having signal to noise ratio over 60db, and dark night video

definition 16 times better than regular 48db DSP;

an auto shuttle control circuit, speed range from 1/50 up to 1/10,000, making possible to view at ambient light from over 10,000 lux burning hot sunlight down to merely 0.3 lux little moon light;

whereby said owl's eye camera produces remarkable high optical definition, accurate, sharp actual view size, and be able to view clear object at no matter suburban dark night without city light or under blazing sunlight at summer noon time.

[Claim 5] An open architecture design to shrink a camera as small as thumb nail (fig 3A, 3B), comprising:

a thumb nail size front end module, having micro water proof enclosure, lens and CCD sensor chip inside ;

a back end module, having driving circuit PCB board module, output connectors and switch ;

a high frequency bandwidth cable with detectable connectors at both end to connect said front end module to said back end module;

Whereby to shrink a camera as small as thumb nail size, and weight with its mount together merely 1 OZ, making a new record of world's smallest water proof precision CCD camera, and totally enabling flexible surface mount technique.

[Claim 6] Said front end module of claim 5, a key precision component, comprise:
a set of large iris precision lens;

a sensor attached at back of said lens;

a water proof and UV ultra violet proof thumb nail size enclosure, also featured as lens holder;

a hidden anti stealing method solution for said open architecture camera.

thereby to remove conventional large foot print stand alone lens holder and to squeeze size of total assembly much smaller.

[Claim 7] Said hidden anti stealing method solution of claim 6, comprising steps of :

- a. keeping said backend module of open architecture camera under hood or inside a vehicle, from visible;
- b. activating sensor broken wire alarm;
- c. providing low cost components to users who got stolen for their plug and play quick replacement ;
- d. keeping stolen partial proprietary module not usable nor sellable without said back end module having a code matched technique;

whereby to discourage thief from stealing again.

[Claim 8] A technique method for manufacturing a camera gripper to ultra light weight (merely 0.1 OZ,) for surface mount said thumb nail size camera, comprising the steps of :

- a. drawing an "O" ring shape gripper in 2D sheet metal format, having an "O" clamp shape at top, a U shape leg at middle, a footpad at bottom for vertical sticking mount (see fig 7B, 7D);
- b. cutting a piece of soft thin rust-less sheet metal according to said "O" ring gripper 2D drawing;
- c. finger bending and forming said sheet metal "O" ring gripper;
- d. putting double sides sticky adhesive material or a Velcro on said footpad of said "O" ring gripper;
- e. holding said thumb nail camera with said "O" ring gripper with a giving tool less screw;

f. sticking said "O" ring gripper with said owl's eye camera on 4 corners of your vehicle, near 4 turning lights; whereby surface mounts are done without drilling screw holes nor tools, no hurting shiny surface finish of any new vehicle or used vehicle.

[Claim 9] A technique method for surface mount 3 of the owl's eye cameras to obtain best rear proximity views of any vehicle, comprising steps of :

- a. sticking 2 of said "O" ring gripper with camera to free spot nearby 2 rear turning signal lights of a vehicle;
- b. sticking 1 said "O" gripper with camera to central spot of your vehicle for straight back view (drawing 07);
- c. sliding in said wiring cable with backend module of the cameras to back trunk of your vehicle via nearest cover gap or rear door gap, thereby hiding said backend modules inside back trunk or underneath of a vehicle;
- d. tilting said "O" gripper soft leg with camera to point at diagonal opposite corner side (see fig 6C);
- e. wiring rear corner camera video output to opposite side of a central 3 X LCD e-Mirror, rear left corner camera to a right LCD e-Mirror, rear right corner camera to a left LCD e-Mirror;
- f. wiring rear central camera to the middle LCD e-Mirror;
- g. leveling all 3 rear views by rotating cameras and bending said "U" shape leg of the "O" ring gripper,
- h. taking little edge view of your vehicle body rear corner for rear proximity view, and applying on both rear corner cameras (see fig 9E);
- i. switching on mirror function at the backend modules of all 3 rear cameras; whereby obtaining a full 180 degree panoramic proximity rear view.